EXHIBIT 11

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

GARY KOOPMAN, TIMOTHY KIDD and VICTOR PIRNIK, Individually and on Behalf of All Others Similarly Situated, Plaintiffs, v. FIAT CHRYSLER AUTOMOBILES N.V., FCA US LLC, SERGIO MARCHIONNE, RICHARD K. PALMER, SCOTT KUNSELMAN, MICHAEL DAHL, STEVE MAZURE AND ROBERT E. LEE Defendants.	**Civ. Action No: 15-cv-07199-JMF** **CLASS ACTION**

EXPERT REBUTTAL REPORT OF ZACHARY NYE, PH.D.

March 13, 2018

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I. Background and Qualifications

1. Previously in this matter, I submitted the Expert Report of Zachary Nye, Ph.D., dated March 17, 2017 (the "Nye Report"), as well as the Supplemental Expert Report of Zachary Nye, Ph.D. (the "Supplemental Nye Report"), dated December 21, 2017. In the Supplemental Nye Report, I opined that the common stock of Fiat Chrysler Automobiles N.V. ("Fiat Chrysler" or the "Company") traded in an efficient market throughout the period October 13, 2014 through May 22, 2017, inclusive (the "Class Period").[1] I also opined that my event study demonstrates the price impact of the alleged misrepresentations described in the Fourth Amended Complaint,[2] and that damages for investors who purchased Fiat Chrysler stock during the Class Period can be calculated using a method that is common to the class.[3] I provided expert testimony in this matter on February 2, 2018 (the "Nye Deposition").

2. My qualifications are contained in ¶1 to the Supplemental Nye Report. My curriculum vitae, which includes my academic research, publications in the past ten years, and prior expert testimony in the past four years, is attached as Exhibit 1 to the Supplemental Nye Report.

II. Scope of Engagement

3. I have been asked by Counsel for Plaintiffs in this matter to provide opinions in response to the Expert Report of Paul A. Gompers, Ph.D., dated February 13, 2018 (the "Gompers Report").[4] I also have been asked to address certain portions of Defendants' Memorandum of Law in Opposition to Plaintiffs' Motion for Class Certification, dated February 13, 2018

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[1] Supplemental Nye Report, §VI.

[2] Supplemental Nye Report, ¶71.

[3] Supplemental Nye Report, §VII.

[4] Dr. Gompers testified at deposition in this matter on March 5, 2018 (the "Gompers Deposition").

("Opposition to Class Certification"), that pertain to the opinions contained in the Supplemental Nye Report.

III. The Absence of Statistically Significant Positive Stock Price Returns on Dates of Alleged Misrepresentations Is Inconclusive with Respect to Price Impact

4. To support their conclusion that the alleged misrepresentations lacked price impact, Defendants rely, in part, on the fact that "Dr. Nye's own regression results demonstrate that [Fiat Chrysler's] general statements of compliance had *no* statistically significant impact on [its] stock price when made."[5] However, Defendants have misapplied my event study, and therefore their conclusions are unreliable. An event study is designed to quantify the effect of the disclosure of new, material information on the price of a security. Many of the misrepresentation dates identified in the Fourth Amended Complaint are dates on which Defendants allegedly omitted material facts and/or confirmed prior market expectations (*i.e.*, not new, material information), and thus would not be expected to coincide with statistically significant stock price changes. As such, the absence of a statistically significant price increase on such dates of alleged misrepresentations by no means negates the presence of price impact during the Class Period. Indeed, as other courts have found, false and misleading statements and omissions can serve to maintain inflation rather than cause any incremental change.[6]

5. Crucially, Defendants fail to acknowledge that, on October 10, 2014, just prior to the start of the Class Period, Fiat Chrysler assured the market that it was "substantially in compliance with the relevant global regulatory requirements affecting our facilities and products," and that

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[5] Opposition to Class Certification, p. 12.

[6] *See, e.g.*, *In re Vivendi, S.A. Sec. Litig.*, Nos. 15-180-cv(L), 15-208-cv(XAP), __ F.3d __, 2016 WL 5389288, at *22–24 (2d Cir. Sept. 27, 2016).

"[w]e constantly monitor such requirements and adjust our operations to remain in compliance."[7] Thus, the repetition of this statement, as well as other statements that the Company was in compliance with various vehicle safety and emissions regulations, would not have come as a surprise to market participants during the Class Period. That Fiat Chrysler stock did not experience statistically significant price changes on dates of alleged misrepresentations is, therefore, consistent with the information set available to investors prior to the Class Period and consistent with market efficiency. As discussed below, the price impact of the alleged misrepresentations is strongly evidenced by the fact that Fiat Chrysler's stock price declined significantly on July 27, 2015; October 28, 2015; May 23, 2016; January 12, 2017; February 6 and 7, 2017; and May 23, 2017, following the alleged corrective disclosures and/or risk materialization events.

IV. Defendants Improperly Conflate Statistical Significance and Price Impact; the Absence of a Price Change That Is Statistically Significant at the 95% Confidence Level Does Not Prove a Lack of Price Impact

6. Defendants falsely claim "the record demonstrates no price impact attributable to the alleged misstatements, either when they were made or when the truth was supposedly revealed."[8] To support this argument, Defendants assert that "Plaintiffs cannot demonstrate that FCA US's supposed 'corrective disclosures' about safety recalls had a statistically significant impact on its stock price,"[9] and that "five of [the] alleged [emissions-related] 'corrective disclosures' caused 'no statistically significant decline' in FCA's stock price."[10] Notwithstanding the fact that the

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[7] Fiat Chrysler, SEC Form F-1, filed October 10, 2014, p. 157.

[8] Opposition to Class Certification, p. 21.

[9] Opposition to Class Certification, p. 14.

[10] Opposition to Class Certification, p. 19.

Supplemental Nye Report strongly demonstrates price impact in this case,[11] Defendants and Dr. Gompers rely entirely on my regression model for their conclusions on statistical significance, and neither conducts an independent event study to analyze price impact.[12] Indeed, the Gompers Report is conspicuously silent on the topic of price impact,[13] and Defendants "have failed to present any competent evidence demonstrating a lack of price impact."[14]

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[11] Supplemental Nye Report, Exhibit 15 and ¶71:

> [G]iven that the Circuit Court decision on appeal in Halliburton II established that "[p]rice impact can be shown either by an increase in price following a fraudulent public statement or a decrease in price following a revelation of the fraud," it is my opinion that price impact in this case may be demonstrated using statistically significant Company-specific price declines that occurred on: July 27, 2015; October 28, 2015; May 23, 2016; January 12, 2017; February 6 and 7, 2017; and May 23, 2017, when disclosures made by Fiat Chrysler and/or events caused by the materialization of previously concealed risks corrected the alleged misrepresentations described in the Fourth Amended Complaint.

[12] Gompers Report, Exhibits 1 and 2.

[13] Gompers Deposition, 15:4–8:

> Q. Are you providing any opinions on whether or not the alleged misleading statements had a price impact on Fiat Chrysler stock?
>
> A. I haven't been asked to offer price impact opinions.

[14] *Bing Li, et al. v. Aeterna Zentaris, Inc., et al.*, Civil Action No: 14-cv-7081 (PGS)(TJB), Memorandum and Order, dated February 28, 2018, p. 21:

> …[M]ost importantly, Defendants have failed to present any competent evidence demonstrating a lack of price impact, thereby rebutting the presumption of reliance. *See Halliburton II, 134 S. Ct. at 2416*. Although Defendants present Dr. Tabak's report in an effort to undermine Dr. Werner's conclusions, Dr. Tabak did not perform an independent event study, nor did he perform a price impact assessment. Instead, Dr. Tabak criticized the Werner report for failing to find, with 95% confidence, price impact of the August 30, 2011 press release. However, as noted above, it is Defendants' burden, not Lead Plaintiffs', to prove price impact. *See Halliburton II, 134 S. Ct. at 2414-15* (holding that because evidence of publicity and market efficiency indirectly demonstrate price impact, plaintiff is not required to prove price impact in order to be entitled to a presumption of reliance.). Therefore, since Dr. Tabak's report does not demonstrate the absence of a price impact, Plaintiffs' presumption of reliance stands unrebutted.

7. Defendants' price impact argument effectively boils down to an assertion that a "negative return at the 90% confidence level . . . is below the conventional statistical measure of a 95% confidence level and therefore is not sufficient evidence of a link between the corrective disclosure and the price."[15] However, even assuming *arguendo* this statement to be true, Defendants fail to appreciate that "at class certification, a plaintiff is not required to prove … price impact,"[16] but rather it is Defendants' burden to "show[] a lack of price impact."[17] As described below, a failure to find statistical significance at the 95% confidence level does ***not*** allow a researcher to attribute causation to "random volatility," and thereby rule out price impact.

8. As an initial matter, it is important to note that the confidence level associated with a given company-specific return is measured as one minus the "*p*-value" of that return, where the *p*-value represents the conditional probability of observing a return as extreme as, or more extreme than, the return at issue. Thus, consistent with the standard frequently employed by social scientists, statistical significance in the context of securities litigation merely indicates that a given company-specific return is a relatively rare occurrence.[18] For example, statistical significance at the 95% confidence level (*i.e.*, a return with a *p*-value less than or equal to 5%) merely connotes that the return under study is among the top 5% of "normal" returns in terms of

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[15] Opposition to Class Certification, pp. 15, 16. (Internal citations omitted.)

[16] *Carpenters Pension Trust Fund of St. Louis, et al. v. Barclays PLC, et al.*, Case No. 12-cv-5329 (SAS), Opinion and Order, dated August 20, 2015 ("*Carpenters*"), p. 36.

[17] *Halliburton Co. v. Erica P. John Fund, Inc.*, -- U.S. --, 134 S. Ct. 2398, 2405 (June 23, 2014) ("*Halliburton II*")

[18] Kaye, David H. and David A. Freedman, "Reference Guide on Statistics," in Federal Judicial Center, *Reference Manual on Scientific Evidence,* National Academies Press, 2011, 3rd Ed. ("Reference Guide on Statistics"), pp. 250–252. ("Statistical significance is determined by comparing a *p* [*i.e.*, the probability of observing data as extreme as, or more extreme than, the actual data—given that the null hypothesis is true] to a preset value, called the significance level." Thus, statistical significance "is merely a label for a certain kind of *p*-value.")

absolute magnitude (*i.e.*, either among the bottom 2.5% of the most negative returns or among the top 2.5% of the most positive returns).[19]

9. When testing the null hypothesis of "no price impact," a statistically significant result will have a small *p*-value (*i.e.*, less than 5%, when applying the 95% confidence level), thereby indicating "the observed data are far from what is expected under the null hypothesis—too far to be readily explained by the operations of chance. That discredits the null hypothesis."[20] However, while the *p*-value "gives the chance of getting evidence against the null hypothesis as strong or stronger than the evidence at hand,"[21] it "does not give the chance that the null is

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[19] Gompers Deposition, 40:5–41:5:

> So essentially it's just testing where in the distribution of residuals the residual return falls. So when I said that to be significant at the 95 percent confidence level you had to be 1.96 standard deviations -- the residual had to be at least 1.96 standard deviations bigger than zero, or the ratio of the residual to the standard deviation had to be above 1.96, that's assuming that the distribution of the residuals is normally distributed.
>
> And so what that says is that in a normally distributed distribution there's only 5 percent of the probability mass which falls outside of that 95 percent range. So that's 95 percent deviate by less than 1.96 standard deviations. For 90 percent it's like 1.68. So what that says is that in order to be statistically significant at the 90 percent level, the ratio of the residual return to the standard deviation has to be at least 1.68. And so that's what it says.
>
> And so the way to think about the way we do statistical significance is to think about the distribution of the variable we're testing -- residual returns. We typically assume normality. And then this just tells us where we fall in that distribution of normality.

[20] Reference Guide on Statistics, p. 251.

[21] Reference Guide on Statistics, p. 250.

true,"[22, 23] nor "the probability that ... the results occurred because of chance."[24, 25] Indeed, "[a]ccording to the frequency theory of statistics, there is no meaningful way to assign a numerical probability to the null hypothesis."[26] Thus, Defendants' dismissal of price impact based on a lack of statistical significance at the 95% confidence level is a fundamental statistical error since they improperly infer that their null hypothesis, that the alleged misrepresentations had no price impact,[27] is true.

10. As was recently noted by the *Carpenters* court in the U.S. District Court for the Southern District of New York:[28]

> In academic research, event studies are almost exclusively conducted with large samples of securities from a number of different firms. When the event study is used in a litigation to examine a single firm, the chances of finding statistically significant results decrease dramatically. "[T]he event study technique improves as the number of firms in the sample increase, as the number of days in the announcement window decrease, and as the alternative of a larger abnormal return

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[22] *Ibid.*

[23] Gompers Deposition, 57:25–58:3 ("…what one would say when they set this up is that if you can't reject the null hypothesis, it doesn't mean that the null hypothesis is necessarily true...."); 60:21–25 (agreeing that "[b]ecause P is calculated by assuming that the null hypothesis is correct, P does not give the chance that the null is true.")

[24] Hubbard, Raymond and R. Murray Lindsay, "Why *P* Values Are Not a Useful Measure of Evidence in Statistical Significance Testing," *Theory & Psychology*, Vol. 18(1), pp. 69–88, at p. 70.

[25] Gompers Deposition, 61:8–62:3.

[26] Reference Guide on Statistics, p. 250.

[27] Opposition to Class Certification, p. 3:

> …. the purported "corrective disclosures" that Plaintiffs allege revealed the falsity of FCA's challenged statements also did not cause any impact on the Company's stock price. *See Halliburton II*, 134 S. Ct. at 2414 (*Basic* presumption may be rebutted by "evidence that the asserted misrepresentation (*or its correction*) did not affect the market price of the defendant's stock") (emphasis added).
>
> …Plaintiffs' own expert's analysis shows that none of the safety recall disclosures that Plaintiffs say revealed the truth of FCA US's regulatory noncompliance had a statistically significant impact on FCA's stock price when made.

[28] *Carpenters*, pp. 33–35. (Internal citations omitted.)

is considered against the null hypothesis of zero abnormal return." As to the latter point, neither the Supreme Court nor the Second Circuit has indicated whether the abnormal return must meet a particular threshold level, yet the success of an event study will depend on the size of the return it attempts to measure. The following example from the literature highlights the problems inherent in placing too much emphasis on event studies to measure market efficiency:

[i]n a sample size of twenty-five companies, the probabilities of detecting an abnormal return (or an effect on the stock price) of 0.5%, 1% and 2% is 24%, 71% and 100% respectively. But if the sample size is increased to 100 companies, the probabilities of detecting an abnormal return of 0.5%, 1%, and 2% is 71%, 94%, and 100% respectively. Thus, there is significant difference in detecting an abnormal return, or effect on the stock price, depending on the size of the event study.

11. As mentioned in the *Carpenters* case, it is well-known that single-firm event studies, have low statistical "power" in the sense that they are prone to "accepting the null hypothesis when the alternative hypothesis is true" (*i.e.*, prone to making Type II errors).[29] Consistent with *Carpenters*, the Second Circuit has stated that "[e]vent studies offer the seductive promise of hard numbers and dispassionate truth, but methodological constraints limit their utility in the context of single-firm analyses…. Notably, small sample sizes may limit statistical power, meaning that only very large-impact events will be detectible."[30] In other words, single-firm event studies are inclined not to find statistical significance, when in fact the Company-specific return was caused by the release of material, value-relevant information on a given event date.[31] In light of this well-established bias, the fact that Fiat Chrysler's Company-specific stock price decline on July 27, 2015 (in response to the announcement of the NHTSA Consent Order) was statistically significant at the 92.12% confidence level in U.S. trading, and at the 99.34%

[29] Reference Guide on Statistics, p. 254, footnote 106.

[30] *In re Petrobras Securities*, Case No. 16-1914-cv (2d Cir. Jul. 7, 2017), pp. 64, 65. (Internal citations omitted.)

[31] *Id.*, p. 65, footnote 30, citing Alon Brav & J. B. Heaton, *Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias*, 93 Wash. U. L. Rev. 583 (2015).

confidence level in European trading,[32] simply does not support Defendants' assertion that the alleged misrepresentations lacked price impact. To the contrary, these results provide strong evidence of price impact associated with partial revelation that Fiat Chrysler was **not** "substantially in compliance with the relevant global regulatory requirements."[33]

12. In any event, the 95% confidence level Defendants insist on is not the only valid confidence level when assessing price impact or loss causation. In fact, academic literature suggests the 90% confidence level might be most appropriate for statistical inference within the context of a securities litigation event study. For example, when making inferences based on statistical data, the *Reference Manual on Scientific Evidence* states that "90% is seen on occasion," with no indication that the 90% confidence level is not considered valid within the scientific community.[34] Indeed, a later chapter within the *Reference Manual on Scientific Evidence*, entitled "Reference Guide on Multiple Regression," has a much broader discussion on the topic of statistical inference that suggests the 90% confidence level (corresponding to the use of a 10% significance level) might be most appropriate for statistical inference within the context of a securities litigation event study:[35]

> The use of 1%, 5%, and, sometimes, 10% levels for determining statistical significance remains a subject of debate. One might argue, for example, that when regression analysis is used in a price-fixing antitrust case to test a relatively specific alternative to the null hypothesis (*e.g.*, price fixing), a somewhat lower level of confidence (a higher level of significance, such as 10%) might be appropriate. Otherwise, when the alternative to the null hypothesis is less specific, such as the rather vague alternative of "effect" (*e.g.*, the price increase is caused by the increased cost of production, increased demand, a sharp increase in advertising, or price fixing),

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[32] Supplemental Nye Report, Exhibits 14 and 15.

[33] Fourth Amended Complaint, ¶275.

[34] Reference Guide on Statistics, p. 245.

[35] Rubinfeld, Daniel L., 2011, "Reference Guide on Multiple Regression," in Federal Judicial Center, *Reference Manual on Scientific Evidence*, National Academies Press, 3rd Ed., p. 321, footnote 48.

a high level of confidence (associated with a low significance level, such as 1%) may be appropriate.

13. Similar to the aforementioned example involving a regression analysis used in a price-fixing antitrust case, my event study for July 27, 2015 tests a highly specific alternative to the null hypothesis. That is, it tests whether the specific fraud-related information revealed on Sunday, July 26, 2015 (*i.e.*, the announcement of the NHTSA Consent Order) caused the Company-specific return observed on the following trading day. Thus, it is clearly scientifically valid to employ a 90% confidence level when making statistical inferences about price impact estimated via regression analysis.

14. Additionally, the notion that material information must induce a statistically significant price reaction is incongruous with the fundamental tenets of financial economics. The science of financial economics is predicated on 1) the "Law of One Price," which "implies that the price of a security should equal the present value of the expected cash flows an investor will receive from owning it;"[36] 2) the axiom of "semi-strong" form market efficiency, which states that "all publicly available information regarding the prospects of a firm must be reflected already in the stock price;"[37] and 3) arbitrage pricing theory, which posits that stock returns are determined by their systematic risk exposure, "plus another (zero expected value) random amount attributable to firm-specific events."[38] Absent from these widely-accepted scientific principles is any reference to statistical significance. The science of financial economics explicitly allows for security prices to efficiently adjust to new information that even minimally affects the "present

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[36] Berk, Jonathan and Peter DeMarzo, 2007, *Corporate Finance*, Pearson Education, Inc., 1st Ed., Ch. 9, p. 245.

[37] Bodie, Zvi, Alex Kane, and Alan J. Marcus, 2008, *Investments*, McGraw-Hill/Irwin, 7th Ed., Ch. 11, p. 361.

[38] *Id.*, pp. 332–345 at p. 332.

value of the expected cash flows an investor will receive from owning it,"[39] which by definition will not induce a price reaction large enough to qualify as being statistically significant.[40]

15. To illustrate the illogic of conflating statistical significance and price impact in this case, consider that Company-specific returns for Fiat Chrysler stock need to exceed 3.50% in order to be considered statistically significant at the 95% confidence level under my regression model.[41] Thus, given that Fiat Chrysler's market capitalization was never less than $7.3 billion during the Class Period,[42] even events that reduced the value of the Company's equity by $250 million (or 3.42% per share at a market capitalization of $7.3 billion)[43] would not meet the 95% confidence-level threshold at any point during the Class Period. Surely, had Fiat Chrysler announced that it lost $250 million in cash by accident, theft, fine, or other means, such an event would have been material to investors and caused an observable price decline in an efficient market. Yet, under Defendants' myopic rule, which ignores the actual information disclosed and merely focuses on the size of the attendant price reaction, such an event could not possibly have price impact. To the contrary:

> "[w]hile a statistically significant reaction to a firm-specific news event is evidence that information was reflected in the price (absent confounding effects), the converse is *not true*—the failure of the price to react so extremely as to be

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[39] Berk, Jonathan and Peter DeMarzo, 2007, *Corporate Finance*, Pearson Education, Inc., 1st Ed., Ch. 9, p. 245.

[40] Gompers Deposition, 62:11–14 ("So it is possible that some information will not engender statistically significant stock price movement.").

[41] Supplemental Nye Report, Exhibit 14A, which shows that the Standard Error for Fiat Chrysler's daily stock returns was 1.78% during the Control Period, thereby implying that the critical value for statistical significance at the 95% confidence level is 3.507% under a *t*-distribution with 190 degrees of freedom (*i.e.*, 3.507% = 1.78% x 1.97).

[42] Supplemental Nye Report, Exhibit 4.

[43] $250 million divided by $7.3 billion equals 3.42%.

> [detectable] does *not* establish that the market is inefficient; it may mean only that the" effect size was not large enough to be detected in the available sample.[44]

16. By design, the calculation of statistical significance does not entail any analysis of company-specific news. Thus, while statistical significance may be an objective manner in which to establish whether a return is extreme enough to be considered rare, it is not a necessary condition to imply materiality, nor does the lack of statistical significance constitute statistical proof of the absence of price impact or loss causation. As "the goodness or badness of a hypothesis cannot be decided on merely statistical grounds,"[45] the determination of whether company-specific news is material must at least consider the content of the news itself, in order to determine if it can plausibly explain the contemporaneous share price movement.[46] Furthermore, it is my understanding that "the premise that statistical significance is the only reliable indication of causation … is flawed," and that "such a categorical rule would 'artificially exclud[e]' information that would otherwise be considered significant to the trading decision of a reasonable investor."[47] Indeed, "[t]he failure of an event study to find price movement does not prove lack of price impact with scientific certainty."[48]

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[44] *In re Petrobras Securities*, Case No. 16-1914-cv (2d Cir. Jul. 7, 2017), p. 65, footnote 30, citing Alon Brav & J. B. Heaton, *Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias*, 93 Wash. U. L. Rev. 583 (2015).

[45] McCloskey, Donald N., 1985, "The Loss Function Has Been Mislaid: The Rhetoric of Significance Tests," *The American Economic Review*, Vol. 75, No. 2, Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association, p. 203.

[46] Bodie, Zvi, Alex Kane, and Alan J. Marcus, 2008, *Investments*, McGraw-Hill/Irwin, 7th Ed., Ch. 11, pp. 366–368.

[47] *Matrixx Initiatives, Inc. v. Siracusano*, 563 U.S. 27 (2011), quoting *Basic Inc. v. Levinson*, 485 U.S. 224 (1988).

[48] *Carpenters*, p. 61. *See also, Bing Li, et al. v. Aeterna Zentaris, Inc., et al.*, Civil Action No: 14-cv-7081 (PGS)(TJB), Memorandum and Order, dated February 28, 2018, pp. 20, 21.

V. Price Impact Can Be Demonstrated by Fiat Chrysler's Stock Price Reactions to the Alleged Corrective Disclosures

17. As described in the Supplemental Nye Report, my opinion that the alleged misrepresentations in this case had price impact is the result of my analysis of market efficiency for Fiat Chrysler stock during the Class Period. Specifically, I conducted an event study pursuant to *Cammer* Factor 5 to determine whether new, material, unexpected information was promptly reflected in the price of Fiat Chrysler stock.[49] I examined a sample of event dates during the Class Period, comprised of dates on which Fiat Chrysler released quarterly or annual earnings announcements as well as dates identified as corrective events in the Fourth Amended Complaint.[50] As described in Exhibit 15 to the Supplemental Nye Report and in the Report itself, "I [found] that Fiat Chrysler's stock price reflected the information disclosed to the market, and promptly responded to material, unexpected news, which supports my conclusion that the market for Fiat Chrysler stock was efficient during the Class Period."[51] Neither Defendants, nor Dr. Gompers, disputes that the market of Fiat Chrysler stock was efficient throughout the Class Period.

18. I further opined that the price impact of the misrepresentations alleged in this case may be demonstrated by the statistically significant price declines observed on July 27, 2015; October 28, 2015; May 23, 2016; January 12, 2017; February 6 and 7, 2017; and May 23, 2017:

> Additionally, given that the Circuit Court decision on appeal in *Halliburton II* established that "[p]rice impact can be shown either by an increase in price following a fraudulent public statement or a decrease in price following a revelation of the fraud," it is my opinion that price impact in this case may be demonstrated using the statistically significant Company-specific price declines

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[49] Supplemental Nye Report, ¶¶65–71. *See also* Appendix A.

[50] Supplemental Nye Report ¶68 and Exhibit 15. *See also* Fourth Amended Complaint, ¶¶323–376.

[51] Supplemental Nye Report ¶71.

> that occurred on: July 27, 2015; October 28, 2015; May 23, 2016; January 12, 2017; February 6 and 7, 2017; and May 23, 2017, when disclosures made by Fiat Chrysler and/or events caused by the materialization of previously concealed risks corrected the alleged misrepresentations described in the Fourth Amended Complaint.[52]

19. In their Opposition to Class Certification, Defendants contend that none of the corrective events at issue, either about safety recalls or about emissions, had any price impact:

> Neither the Alleged "Corrective Disclosures" about Safety Recalls Nor the Alleged "Corrective Disclosures" about Emissions Impacted FCA's Stock Price When the "Truth" Supposedly Was Revealed.[53]

On the contrary, in Exhibit 15 of the Supplemental Nye Report, I discussed in detail why price impact can be demonstrated for each of the following dates. That discussion, and Defendants' mischaracterization of my opinions on this subject, are summarized in the following subsections.

i. July 27, 2015: NHTSA Consent Order

20. Monday, July 27, 2015, was the first trading day following the Company's announcement on Sunday July 26, 2015 of the NHTSA Consent Order accepted by Fiat Chrysler. The Company admitted noncompliance in recalls, and agreed to pay as much as $105 million in fines:[54]

> The consent order includes an admission by FCA US that in three specified campaigns it had failed to timely provide an effective remedy, and that it did not timely comply with various reporting requirements under the National Traffic and Motor Vehicle Safety Act of 1966. Pursuant to the consent order, FCA US has agreed to make a $70 million cash payment to NHTSA and to spend $20 million on industry and consumer outreach activities and incentives to enhance certain recall and service campaign completion rates.
>
> An additional $15 million payment will be payable by FCA US if it fails to comply with certain terms of the consent order. FCA US has also agreed to undertake specific actions to improve its recall execution. The consent order will

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[52] Supplemental Nye Report, ¶71 (internal citations omitted).

[53] Opposition to Class Certification, p. 14.

[54] *See* Supplemental Nye Report Exhibit 15, pp. 1, 39–43 for a more extensive discussion of information releases and price impact on this date.

> be supervised by an independent monitor and will remain in place for three years subject to NHTSA's right to extend for an additional year in the event of FCA US' noncompliance with the consent order.[55]

21. *Dow Jones* reported the fines "are tied to legal violations in three areas: misleading and obstructing regulators; inadequate and lagging repairs; and failing to alert car owners to recalls in a timely manner."[56] Following announcement of the Consent Order, media sources estimated that the buyback program under the Consent Order would cost Fiat Chrysler more than $900 million.[57] JP Morgan estimated a "worst case scenario" of €4 billion.[58] In response to this news, Fiat Chrysler stock trading on Milan's Borsa Italiana suffered a Company-specific decline of 4.99% on July 27, 2015, which was statistically significant at the 99.34% confidence level.[59]

22. After the Italian market close, in the afternoon Eastern Time of July 27, 2015,[60] Fiat Chrysler issued a press release denying that repurchase costs under the Consent Order would be substantial, declaring that they would not be material.[61] According to the Fourth Amended Complaint, these assurances were false and/or misleading, as Fiat Chrysler "failed to properly account for costs and liabilities related to vehicle warrantees [*sic*] and recalls," causing "EBIT, cost of sales, and net profit to be at least higher €761 million than it would have been had

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[55] *PR Newswire*, "FCA US reaches consensual resolution of NHTSA investigation on 23 recall campaigns," July 26, 2015, 6:24 PM. The fine and consent agreement were first reported on Saturday, July 25, 2015. (*Dow Jones Institutional News*, "*Fiat Chrysler Faces Record $105 Mln Recall Penalty – Sources," July 25, 2015, 9:16 PM.)

[56] *Dow Jones Institutional News*, "Record Fine for Fiat Chrysler," July 26, 2015, 7:35 PM.

[57] Fourth Amended Complaint, ¶327.

[58] JP Morgan, "Recall situation: first glance," July 27, 2015. *See* Supplemental Nye Report Exhibit 15, p. 41.

[59] Supplemental Nye Report Exhibit 15, p. 1.

[60] *See* Supplemental Nye Report ¶17 for a discussion of exchange trading hours and time differences between Milan and New York during the Class Period.

[61] *PR Newswire*, "FCA Clarifies Scope of Remedies in NHTSA Consent Order," July 27, 2015, 1:55 PM. *See* Supplemental Nye Report Exhibit 15, p. 40.

Chrysler not been underreporting costs."[62] Following Fiat Chrysler's press release, assuring the market that repurchase costs under the Consent Order would not be material, the Company's stock price closed down a Company-specific 3.14% in U.S. markets, which was statistically significant at the 92.12% confidence level.[63] A variety of news articles cited the fine and Consent Order as the reasons the Company's stock was trading down in both Italy and the United States on July 27, 2015.[64]

23. Defendants contend that I concluded there was no significant Company-specific price decline in Fiat Chrysler stock following the announcement of the NHTSA Consent Order:

> As Dr. Gompers explains, Plaintiffs' expert concluded that the July 24 disclosure also had no statistically significant impact on FCA's stock price. (Nye Report Ex. 15 at 1; Ex. 1 (Gompers Report) ¶ 12 Ex. 1.)[65]

This is false. As is evident from the Supplemental Nye Report, I found that the stock price decline in the Italian market was statistically significant at the 99.34% confidence level. I also found that the decline in U.S. markets, which followed the ameliorating effect of Fiat Chrysler's allegedly false and/or misleading statement that repurchase costs under the Consent Order would not be material, was statistically significant at the 92.12% level.[66]

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[62] Fourth Amended Complaint ¶¶328–329.

[63] Supplemental Nye Report Exhibit 15, p. 1.

[64] *See, e.g.*, *Dow Jones Institutional News*, "Fiat Chrysler Drops Following Recall Deal with U.S. Regulators -- Market Talk," July 27, 2015; *Reuters*, "BRIEF-Fiat Chrysler down 1.7 pct after fine from U.S. safety watchdog," July 27, 2015, 3:09 AM; *Reuters*, "Fiat Chrysler could spend billions to buy back unrepaired trucks," July 27, 2015, 3:10 PM; *Reuters*, "BUZZ-Fiat Chrysler Automobiles NV: Fined record $105 mln by U.S. regulators," July 27, 2015, 7:49 AM; *Reuters*, "Fiat Chrysler falls 7 pct on worries over recall actions," July 27, 2015, 10:03 AM.

[65] Opposition to Class Certification, p. 15.

[66] Supplemental Nye Report ¶69, also Exhibit 15, p. 1.

24. As described above, the fact that Fiat Chrysler's Company-specific stock price decline on July 27, 2015 was statistically significant at the 92.12% confidence level in U.S. trading, and at the 99.34% confidence level in European trading,[67] provides strong evidence of price impact, given the well-established fact that single-firm event studies are biased against finding statistical significance, even when a given Company-specific return was indeed caused by the release of material, value-relevant information.[68] Furthermore, given: (i) the overwhelming evidence of market efficiency in this case, which is not disputed by Defendants or Dr. Gompers; and (ii) the lack of any confounding information unrelated to NHTSA Consent Order that could have influenced the Company's stock price on July 27, 2015, the fact that Fiat Chrysler's stock price decline was statistically significant at the 92.12% confidence level in U.S. trading, is entirely consistent with the negative reactions of investors to the NHTSA Consent Order, as mitigated by Fiat Chrysler's allegedly false and/or misleading statement late in the U.S. trading day that repurchase costs under the Consent Order would not be material. As described above, the science of financial economics explicitly allows for efficient security prices to adjust to new information that even minimally affects the "present value of the expected cash flows an investor will receive from owning it,"[69] which may not necessarily induce a price reaction large enough to qualify as being statistically significant at the 95% confidence level.[70] Nonetheless, given that Fiat Chrysler's U.S. and European shares traded in lockstep throughout the Class Period (exhibiting a 99.9% correlation with each other, when using contemporaneous market prices and

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[67] Supplemental Nye Report, Exhibits 14 and 15.

[68] *See supra* at ¶11.

[69] Berk, Jonathan and Peter DeMarzo, 2007, *Corporate Finance*, Pearson Education, Inc., 1st Ed., Ch. 9, p. 245.

[70] *See supra* at ¶14.

converting to U.S. dollars),[71] the fact that Fiat Chrysler's Company-specific stock price decline was statistically significant at the 99.34% confidence level in European trading provides compelling evidence of price impact.

ii. October 28, 2015: Market Surprised by Large Recall Reserves

25. On October 28, 2015, Fiat Chrysler announced its financial results for the third quarter of 2015, including a surprisingly large €761 million pre-tax charge related to future recall campaign costs in North America.[72] By the close of U.S. markets on October 28, 2015, Fiat Chrysler stock had declined by a Company-specific 5.43%, which was statistically significant at a 99.75% confidence level.[73] Analysts noted that the Company's results, when adjusted for special charges, were generally in line or better than expected, but that the magnitude of the recall charge was particularly shocking:

> Large one-off charges – EUR943m for the quarter alone, including EUR761m provisions for future NAFTA recall costs – lead to a large EPS miss and are the primary driver of our FY 2015 EPS cuts.[74]
>
> Q3 sales came in at €27.5bn (+16.6%y-o-y) which compares to our estimate and consensus of €27.0bn. EBIT were €1.3bn which is above our forecast of €1.13bn and cons of €1.14bn (14-15% above). The good results were again driven by a positive surprise in the NAFTA division. FCA booked a €761m pre-tax charge for future recall costs as well as a €142m write-down related to vehicles damaged at the Tianjin port which is expected to be recovered though. Nevertheless, the magnitude of the one offs came as a surprise.[75]

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[71] Supplemental Nye Report, ¶25.

[72] *PR Newswire*, "FCA Board of Directors' Meeting: Third Quarter 2015 Results," October 28, 2015, 9:09 AM.

[73] *See* Supplemental Nye Report Exhibit 15, pp. 1, 54–66 for a more extensive discussion of information releases and price impact on this date.

[74] Kepler Chevreux, "Underlying Q3 performance broadly in line, big one-off charges," October 29, 2015. *See also* supplemental Nye Report Exhibit 15, p. 54.

[75] Commerzbank, "FCA, Q3 burdened by one-offs," October 29, 2015. *See also* Supplemental Nye Report Exhibit 15, p. 55.

> 3Q15 results were better than expected if adjusted by unexpected non-recurring items (provisions for additional recalls and Chinese port explosion).[76]

Multiple news sources attributed the decline in the Company's share price that day to the unexpected charge for recall reserves.[77]

26. Defendants do not dispute that prices of Fiat Chrysler shares were negatively impacted following Fiat Chrysler's announcement of a major charge to increase recall reserves. Instead, Defendants argue on legal grounds, that this date should not be considered in assessing price impact "because this court has already held that the Company's statements about those reserves are not actionable as a matter of law."[78] According to the Fourth Amended Complaint, however, the price impact associated with this date is relevant because "[t]he market immediately made the connection between the charge and the Company's regulatory violations for failure to properly conduct recalls." Thus, under Plaintiff's theory of liability, the unexpected charge was a further disclosure of the magnitude of the Company's recall problems and a materialization of the risk posed by the Company's noncompliant safety practices.[79] I do not opine on the legal question, but on the fact that there was price impact on this date, following this disclosure which Plaintiffs'

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[76] Equita, "Positive Quarter Affected by Non-Recurring Costs," October 30, 2015. *See also* Supplemental Nye Report Exhibit 15, p. 63.

[77] *See* Supplemental Nye Report Exhibit 15, p. 65, footnote 81: *Dow Jones Institutional News*, "Fiat Chrysler Swings to Net Loss—Update," October 28, 2015, 11:47 AM. *See, also, Reuters*, "Shares in Fiat Chrysler down sharply on recall charges," October 28, 2015 9:49 AM; *Dow Jones Institutional News*, "Fiat Chrysler Plunges After 3Q Results Released -- Market Talk," October 28, 2015, 10:00AM; *Dow Jones Institutional News*, "Fiat Chrysler Results Dented By Recalls," October 28, 2015, 10:25 AM; *Deutsche Presse-Agentur*, "1ST LEAD Fiat-Chrysler posts Q3 loss of 299 million euros due to recall costs," October 28, 2015, 11:58 AM; and *National Post*, "Fiat Chrysler posts surprise loss on U.S. recall costs; US$105M penalty," October 29, 2015.

[78] Opposition to Class Certification, p. 3.

[79] Fourth Amended Complaint ¶336.

allege partially corrected multiple false and misleading statements regarding Fiat Chrysler's compliance with safety regulations.

iii. May 23, 2016: Report of German Transport Ministry

27. On May 23, 2016, Fiat Chrysler's stock price fell following reports over the weekend that the Company "could be prohibited from selling cars in Germany if evidence of continued disregard of emissions rules is found":

> The Bild newspaper said on Saturday some tests by German transport regulator had found evidence of software that shuts off emissions reduction technology after 22 minutes in some of FCA's models.
>
> The paper also said, citing transport ministry sources, that the carmaker could, in a worst case scenario, be threatened with a sales ban in German if it keeps disregarding emissions rules.[80]

28. In response, a Company spokesperson reiterated that "all [of the] carmaker's vehicles are compliant with existing emissions regulations."[81] By the close of U.S. markets, Fiat Chrysler stock had declined by a Company-specific 4.81%, which was statistically significant at the 99.27% confidence level.[82] Multiple news articles attributed the decline in the Company's stock price to the issue with German regulators.[83]

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[80] *Reuters*, "Fiat Chrysler fall 5 pct after report it could face sales ban in Germany," May 23, 2016, 3:51 AM. *See* Supplemental Nye Report Exhibit 15, pp. 94–95 for a more extensive discussion of information releases and price impact on this date.

[81] *Reuters*, "BRIEF-FCA has no comment on Bild report, says complies with emissions rules," May 23, 2016, 4:08 AM. *See* Supplemental Nye Report Exhibit 15, p. 95.

[82] Supplemental Nye Report Exhibit 15, p.1,

[83] *See, e.g.*, *Reuters*, "Fiat Chrysler fall 5 pct after report it could face sales ban in Germany," May 23, 2016, 3:51 AM; Zacks.com, "Why Fiat Chrysler (FCAU) Close Down 5% on the Day," May 23, 2016, 6:18 PM; *Bloomberg*, "EUROPEAN WRAP: Shares Fall, Bayer Pulls Chemicals Stocks Lower," May 23, 2016, 11:51 AM; *Benzinga.com*, "Benzinga: Benzinga Breakdown: Fiat Chrysler Shares Driven Down," May 23, 2016, 18:20; *Bloomberg*, "European Shares Slide as Fiat Leads Automaker Decline, Oil Falls," May 23, 2016, 9:12 AM. *See* Supplemental Nye Report Exhibit 15, p. 95.

29. Regarding this date of price impact as well, Defendants do not dispute that Fiat Chrysler stock suffered a statistically significant Company-specific price decline, accompanying an announcement regarding the Company's compliance with emissions regulations. Defendants argue instead on legal grounds that this date should not be included in an assessment of price impact, claiming that the Court has excluded claims regarding noncompliance with non-U.S. regulatory requirements.[84] Counsel for Plaintiffs has advised me that this is not true. Again, I do not opine on legal questions, but simply note that Defendants' argument that the Court has excluded questions of noncompliance with safety and emissions regulations of entities outside the U.S. appears to conflict with a plain reading of the Court's discussion in *Pirnik I*, in which the Court repeatedly referred to the "global" nature of Fiat Chrysler's claims of compliance:[85]

> In the sentence primarily at issue, FCA represented from November 2014 through June 2015 that it was 'substantially in compliance with the relevant global regulatory requirements affecting [the company's] facilities and products." (SAC ¶¶198, 203, 222, 234, 236).[86]
>
> First, the only word qualifying "global regulatory requirements" is "relevant," and the Safety Act is plainly relevant (that is, applicable, to FCA).[87]
>
> Thus, a reasonable investor could have understood FCA to be representing that it was "substantially in compliance," not with *most* requirements in *most* areas, but with *all* "such requirements," including with vehicle safety regulations in the United States – particularly when considered in conjunction with Marchionne's and Kunselman's statements on that topic.[88]

30. Defendants also argue that there was no price impact on this date because the Report of the German Transport Industry, according to the Court in *Pirnik II*, was "far from conclusive and

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[84] Opposition to Class Certification, pp. 18–19.

[85] Pirnik v. Fiat Chrysler Autos., N.V., 2016 WL 5818590 (S.D.N.Y. October 5, 2016).

[86] *Id.*, p. 11.

[87] *Id.*, p. 13.

[88] *Id.*, pp. 13, 14. (Emphasis in original.)

provides little or no support for Plaintiffs' claim[s]."[89] However, that quotation from *Pirnik II* continues as follows, making clear that the Court was addressing claims of scienter, not ruling on what could be considered in assessing price impact:

> Thus, the Report is far from conclusive and provides little or no support for Plaintiffs' claim that Marchionne and other FCA officials "must have known" that FCA cars had illegal defeat devices.[90]

Furthermore, Counsel for Plaintiffs also have informed me that in *Pirnik III*, the Court found Plaintiffs had provided sufficient allegations of scienter.[91]

iv. January 12, 2017: Notices of Violation from EPA and CARB

31. On January 12, 2017, Fiat Chrysler's stock price fell following reports the EPA had "delivered a violation notice to Fiat Chrysler accusing the auto maker of using illegal software that allowed 104,000 recent diesel-powered Jeep Grand Cherokee sport utilities and Ram pickup trucks to spew toxic emissions beyond legal limits."[92] The EPA said that "it found at least eight undisclosed pieces of software that can alter how a vehicle emits air pollution."[93] Fiat Chrysler issued a press release in response to the EPA's Notice of Violation in which the Company said it complies with "all applicable regulatory requirements" and does not use "defeat devices."[94] By

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[89] *See* chart in Opposition to Class Certification, p. 18.

[90] *Pirnik v. Fiat Chrysler Autos., N.V.*, 2017 WL 3278928 (S.D.N.Y. August 1, 2017), pp. 7–8.

[91] *Pirnik v. Fiat Chrysler Autos., N.V.*, 2017 WL 5312182 (S.D.N.Y. November 13, 2017).

[92] *Dow Jones Institutional News*, "EPA Accuses Fiat Chrysler of Diesel-Emissions Violations," January 12, 2017, 11:45 AM.

[93] *Reuters*, "EPA accuses Fiat Chrysler of excess diesel emissions," January 12, 2017, 3:12 PM.

[94] *PR Newswire*, "FCA US Response to EPA," January 12, 2017, 11:13 AM. *See* Supplemental Nye Report Exhibit 15, pp. 127.

the close of U.S. markets on January 12, 2017, Fiat Chrysler stock had declined by a Company-specific 9.85%, which was statistically significant at the 100.00% confidence level.[95]

32. Despite the extremely negative and statistically significant price reaction, Defendants argue that the market simply "ignored" this widely publicized news:

> On January 12, 2017, the EPA and CARB issued NOVs [Notices of Violation] alleging that FCA US did not disclose certain emissions-related software in certain vehicles sold in the United States "which constituted less than one percent of [FCA's] global sales," and that "one or more of the undisclosed devices may be defeat devices." *Pirnik II*, 2017 QL 3278928 at *4. But because FCA had already disclosed the EPA's investigation (Ex. 20 (Aug. 4, 2016 FORM 6-K) at 27), "the market broadly ignored FCA's EPA notification in mid-January," as Plaintiffs acknowledge (Nye Report Ex. 15 at 181).[96]

However, Fiat Chrysler's vague risk disclosure on August 4, 2016, that it "received inquiries from EPA, as it examines the on-road tailpipe emissions of several automakers' vehicles,"[97] is not even remotely the same as a Notice of Violation predicated on a continuing EPA investigation that, as of January 12, 2017, had determined the Fiat Chrysler had violated U.S. emissions regulations over 100,000 times, and that "the EPA may find additional violations as the investigation continues."[98]

33. Defendants' argument that the market "ignored" this news is based entirely on their quotation from a single Kepler Chevreux analyst report published much later in the Class Period on May 24, 2017,[99] which opined that the market "ignored" the EPA's NOV in January 2017 not

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[95] *See* Supplemental Nye Report Exhibit 15, pp. 2, 126–141 for a more extensive discussion of information releases and price impact on this date.

[96] Opposition to Class Certification, p. 19.

[97] Fiat Chrysler, SEC Form 6-K, filed August 4, 2016, Exhibit 99.1, p. 27.

[98] EPA Notice of Violation, dated January 12, 2017.

[99] Kepler Chevreux, "FCA sued by US DOJ over diesel emissions," May 24, 2017. *See* Supplemental Nye Report Exhibit 15, p. 180.

because there was no price impact on January 12, 2017, but because "the shares rapidly recovered their initial drop, anticipating a more lenient administration and trusting the absence of provisions in the group accounts."[100] However, Fiat Chrysler's stock price did not reach or exceed its closing price on January 11, 2017 (*i.e.*, just prior to the EPA's NOV was issued) until February 14, 2017. Given that it took over a month for the stock price to recover and that Kepler Chevreux attributed the recovery to factors unrelated to the alleged fraud, Defendants' claim of no price impact on January 12, 2017 is unfounded. Notably, on January 13, 2017, Kepler Chevreux reported the news of EPA action had a sharp price impact on Fiat Chrysler shares on January 12, 2017:

> FCA shares dropped double-digit yesterday, taking most OEM peers down amid the US EPA's notification of clear [*sic*] air act violations (USD4.6bn maximum potential fine).[101]

34. The record clearly demonstrates that the market did **not** ignore this unexpected news. Analysts expressed concern about the regulatory agencies' actions. Jefferies said investors should take the risk of an EPA standoff "seriously" and also noted that the Company's stock "price correction covers 85% of comparable fix/penalty costs at VW."[102] UBS said the latest news could "increase uncertainty for investors" and put recent strong stock price performance at risk, noting that the EPA was still investigating whether or not the emission control devices constituted "defeat devices."[103] Morgan Stanley stated "[w]e take both the EPA accusation and

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[100] *Id.*

[101] Kepler Chevreux, "Another diesel scandal? Small similarities but major differences," January 13, 2017. *See* Supplemental Nye Report Exhibit 15, p. 133.

[102] Jefferies, "FCA, Diesel rearing its ugly head (again)," January 12, 2017. *See* Supplemental Nye Report Exhibit 15, p. 131.

[103] UBS, "Notified by EPA of alleged Clean Air Act violation," January 12, 2017. *See* Supplemental Nye Report Exhibit 15, p. 128.

this rebuttal seriously," predicting the Company's stock price might tumble further.[104] Bank of America Merrill Lynch warned that repair costs could total $1.5–$2.5 billion and "could strain FCA's balance sheet."[105] News articles attributed the decline in the Company's stock price to the EPA's accusations.[106]

35. Defendants also argue that this corrective disclosure should not be considered in assessing price impact because the share price reaction was not due to "the merit of the allegations" (quoting UBS, which stated "[w]e are in no position to assess the merit of the allegations"[107]), but due to supposedly confounding information in the form of "substantial litigation risk" (quoting an analyst report from Commerzbank[108]) and "regulatory uncertainty" about penalties which might result.[109] However, that fact that analysts and investors: (i) did not have inside information to determine "the merit of the allegations" at this date; (ii) could not predict the precise penalties which might result; and (iii) perceived "substantial litigation risk" as

[104] Morgan Stanley, "EPA Investigation: Reloading a Buying Opportunity at Higher Risk," January 13, 2017. *See* Supplemental Nye Report Exhibit 15, p. 134.

[105] Bank of America Merrill Lynch, "Certainly not positive news, but stock reaction seems overdone," January 12, 2017. *See* Supplemental Nye Report Exhibit 15, p. 138.

[106] *See, e.g.*, *Dow Jones Institutional News*, "European Auto Shares Fall After Fiat Chrysler Reports -- Market Talk," January 12, 2017, 11:36 AM; *Dow Jones Institutional News*, "EPA Accuses Fiat Chrysler of Diesel-Emissions Violations," January 12, 2017, 11:45 AM; *Dow Jones Institutional News*, "Fiat Chrysler Plunges on Report of EPA Accusation -- Market Talk," January 12, 2017, 11:12 AM; *Reuters*, "Fiat Chrysler shares tank on report of pending EPA action on emissions," 11:00 AM; *Bloomberg*, "Fiat Chrysler Notified by EPA of Clean Air Act Violations," January 12, 2017, 11:03 AM; *Bloomberg*, "Fiat Chrysler Sinks Before Halt as EPA Alleges Violations," January 12, 2017, 11:12 AM. *See* Supplemental Nye Report Exhibit 15, p. 140.

[107] UBS, "Notified by EPA of alleged Clean Air Act violation," January 12, 2017. *See* Supplemental Nye Report Exhibit 15, p. 129.

[108] Commerzbank, "EPA issues violation notice of Clean Air Act to FCA," January 13, 2017. *See* Supplemental Nye Report Exhibit 15, p. 128.

[109] Opposition to Class Certification, pp. 19–20.

a result of issuance of the NOVs, is not confounding information. Any uncertainty about the consequences of regulatory actions was a result of the fact that the alleged fraud had been only partially revealed as of January 12, 2017, and the presence of substantial litigation risk was a foreseeable consequence of the concealed risk associated with Fiat Chrysler's alleged violations of relevant global regulatory requirements.

v. February 6-7, 2017: Referral to Paris Prosecutor; Report on Italian Emissions Tests

36. On February 6 and 7, 2017, Fiat Chrysler's stock price suffered a two-day Company-specific decline of 6.23%, which was statistically significant at the 98.60% confidence level, accompanying three news items regarding Fiat Chrysler's compliance with global emissions regulations.[110] First, in the afternoon of February 6, 2017, the French ministers of the economy and of industry announced the conclusion of the investigation into possible diesel emissions fraud by Fiat Chrysler, with submission of results of the investigation to the Paris prosecutor.[111] News media later reported in greater detail on the referral by France's DGCCRF (General Directorate for Competition Policy, Consumer Affairs and Fraud Control) of "carmaker Fiat Chrysler (FCA) for possible prosecution over abnormal emissions of nitrogen oxide pollutants from some of its diesel engines."[112] Second, early on February 7, 2017, a Company spokesperson stated that Fiat Chrysler cars were fully compliant with European emissions standards. He added that the Company "had already provided some information to the French

[110] *See* Supplemental Nye Report Exhibit 15, pp. 2, 156–158 for a more extensive discussion of information releases and price impact on this date.

[111] *Bloomberg*, "French Ministers Say Investigation Into Fiat Emissions Complete," February 6, 2017, 1:30 PM and 1:40 PM. *See* Supplemental Nye Report Exhibit 15, p. 156.

[112] *Reuters*, "French investigators refer Fiat Chrysler emissions case to prosecutor," February 6, 2017, 4:42 PM and updated at 5:36 PM. *See* Supplemental Nye Report Exhibit 15, p. 156.

authorities which showed that the results of some of their tests did not correspond with those done by the Italian ministry of transport and the carmaker itself."[113] Finally, during the trading day on February 7, it was reported that Fiat Chrysler vehicles were permitted to skip key tests for illegal software in Italy.[114]

37. Kepler Chevreux cautioned that this was "clearly bad news," and that "[r]enewed development in these emissions issues is clearly bad news for all OEMs."[115] Several news articles attributed the Company's stock price decline on February 7 to the allegations.[116] *Il Sole 24 Ore*, for example, reported:

> Shares of Italian-American auto maker Fiat Chrysler Automobiles (FCA) were lower in Milan trade, as investors remained jittery ahead of an expected deal between Germany and Italy following problems with faulty readings of emissions under real driving conditions uncovered in some FCA models….
>
> According to media reports, Italy and Germany are expected to shortly reach a settlement, which would involve FCA agreeing to modify the control units of its diesel engines to improve the measurement of emissions under real driving conditions. The deal is expected to be ratified shortly by the European Union.[117]

38. Regarding February 6 and 7, 2017, Defendants again argue that the Court has limited Plaintiffs' emissions claims to alleged noncompliance with U.S. federal and state emissions

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[113] *Reuters*, "Fiat Chrysler reiterates diesel vehicles fully compliant," February 7, 2017, 3:44 AM. *See* Supplemental Nye Report Exhibit 15, p. 156.

[114] *Reuters*, "EXCLUSIVE-Italian diesel probe omitted key tests for Fiat Chrysler models," February 7, 2017, 11:57 AM. *See* Supplemental Nye Report Exhibit 15, p. 156.

[115] Kepler Cheuvreux, "More reasons to be concerned by own emission issues," February 8, 2017. *See* Supplemental Nye Report Exhibit 15, p. 156.

[116] *See, e.g., Reuters*, "Fiat Chrysler shares volatile after France refers emissions case to prosecutor," February 7, 2017, 3:36 AM; *Il Sole 24 Ore*, "Europe shares end lower on political jitters -2-," February 7, 2017, 12:32 PM; *Reuters*, "UPDATE 1-After French action, Fiat Chrysler says diesel vehicles meet emissions rules," February 7, 2017, 5:44 AM; and *Il Sole 24 Ore*, "FCA shares down ahead of German emission measurement deal," February 7, 2017, 4:20 AM. *See* Supplemental Nye Report Exhibit 15, p. 158.

[117] *Il Sole 24 Ore*, "FCA shares down ahead of German emission measurement deal," February 7, 2017, 4:20 AM. *See* Supplemental Nye Report Exhibit 15, p. 158.

regulations because the "Court made no mention of these allegations in its emissions-related decisions" in *Pirnik II and III* .[118] Counsel for Plaintiffs has advised me that the Court has not excluded consideration of news about non-U.S. regulatory action as being potentially corrective of the alleged misrepresentations concerning Fiat Chrysler's compliance with relevant global regulatory requirements. As noted above, Defendants' contention appears in conflict with the Court's statements in *Pirnik I* on the global nature of Defendants' allegedly false and misleading statements on regulatory compliance. Defendants also repeat their argument that "market reactions to potential regulatory actions" are a separate issue, so that "price impact could not have been attributable to the alleged misstatements."[119] Again, the prospect of negative enforcement actions by regulators is not a separate issue in assessing price impact. It is an aspect of the risk, which further, although partially, materialized on these two dates, and had been concealed by Fiat Chrysler's allegedly false and misleading claims of compliance.

vi. May 23, 2017: EPA Complaint

39. On May 23, 2017, during the trading day, news media reported that the U.S. Justice Department ("DOJ") would file a civil suit against the Company after regulators accused it of using software to allow excess emissions in 104,000 diesel vehicles.[120] Approximately 90

[118] Opposition to Class Certification, p. 17. *See also* chart at Opposition to Class Certification, p. 18.

[119] Opposition to Class Certification, p. 17.

[120] *Bloomberg*, "DOJ Said Filing Suit vs. Fiat Chrysler On Diesel Emissions: Rtrs," May 23, 2017, 11:11 AM. *See also*, "*Reuters*, "U.S. Justice Dept to sue Fiat Chrysler over excess emissions - sources," May 23, 2017, 11:20 AM. *See* Supplemental Nye Report Exhibit 15, p. 177.

minutes later, the DOJ issued a press release announcing the lawsuit, and stating definitively that Fiat Chrysler had employed "defeat devices":[121]

> The U.S. Department of Justice, on behalf of the U.S. Environmental Protection Agency (EPA), today filed a civil complaint in federal court in Detroit, Michigan, against FCA US LLC, Fiat Chrysler Automobiles N.V., V.M. Motori S.p.A., and V.M. North America, Inc. (collectively referred to as FCA). The complaint alleges that nearly 104,000 light duty diesel vehicles containing 3.0 liter EcoDiesel engines are equipped with software functions that were not disclosed to regulators during the certification application process, and that the vehicles contain defeat devices. The complaint alleges that the undisclosed software functions cause the vehicles' emission control systems to perform differently, and less effectively, during certain normal driving conditions than on federal emission tests, resulting in increased emissions of harmful air pollutants.
>
> ***
>
> These allegations are consistent with those set forth in notice of violation ("NOV") that EPA issued to FCA US LLC and FCA NV on January 12, 2017.

By U.S. market close on May 23, 2017, Fiat Chrysler's stock price had declined a Company-specific 3.88%, which was statistically significant at a 97.00% confidence level.[122]

40. Only days before, Fiat Chrysler had sought to reassure the market by announcing that it had a "fix" for emissions issues previously identified by the EPA, as Societe Generale described:

> The US Justice Department, on behalf of the Environmental Protection Agency (EPA) confirmed on 23 May 2017 that it had filed a civil suit in federal court in Detroit against FCA for installing illegal software in its diesel-powered Ram pickups and Jeep Grand Cherokee SUVs sold between 2014 and 2016. According to the EPA complaint, nearly 104,000 vehicles with FCA's 3.0-litre EcoDiesel engines were equipped with software "defeat devices" that caused the vehicles' emission control systems to perform differently, and less effectively, during certain normal driving conditions than on laboratory emissions tests, thus violating the Federal Clean Air Act.

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[121] *Dow Jones Institutional News,* "Press Release: United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations," May 23, 2017, 12:48 PM. *See* Supplemental Nye report Exhibit 15, p. 177.

[122] *See* Supplemental Nye Report Exhibit 15, pp. 2, 177–184 for a more extensive discussion of information releases and price impact on this date.

> The Justice Department suit follows months of negotiations between FCA and regulators after an initial Notice of Violation was served on FCA on 12 January 2017. This flagged at least eight undisclosed and thus potentially illegal emissions calibrations used on the 104,000 EcoDiesel powered vehicles under scrutiny. A US criminal probe is also underway. FCA announced on 19 May that it had developed a fix to the diesel emissions calibrations that would resolve the EPA's concerns; if the proposed settings for FCA's 2017 MY diesels were approved, it would then make similar modifications to the 2014-16 MY vehicles that were subject to the Notice of Violation. The EPA's suit suggests to us it has lost patience with FCA's remediation proposals.
>
> The potential penalties are significant. The maximum fine FCA faces, according to the EPA, is up to $44,539 per vehicle, or $4.6bn; the final negotiated settlement would likely be lower but still significant.[123]

41. Kepler Chevreux opined that "this is clearly bad news for FCA."[124] Barclays stated it found certain items "quite bothersome," including that although FCA quickly issued "strong denials" after the EPA's January 2017 NOV on the same subject, the Company "has so far been less vocal this time." The analyst predicted "[t]his case is likely to take a long time…and should weigh on FCA's share price for some time."[125] News articles attributed the decline in the Company's stock price on May 23, 2017 to the lawsuit brought by the DOJ.[126]

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[123] Societe Generale, "We still need to talk about Chrysler; the EPA goes after FCA," May 24, 2017. *See* Supplemental Nye Report Exhibit 15, p. 182.

[124] Kepler Cheuvreux, "FCA sued by US DOJ over diesel emissions," May 24, 2017. *See* Supplemental Nye Report Exhibit 15, pp. 180–181.

[125] Barclays, "US Government files civil complaint against FCA," May 23, 2017. *See* Supplemental Nye Report Exhibit 15, p. 178.

[126] *See, e.g., Reuters*, "CORRECTED-BRIEF-Fiat Chrysler shares fall after report U.S. set to file civil suit over emissions," May 23, 2017, 11:39 AM; *Dow Jones Institutional News,* "Fiat Chrysler Falls on Federal Lawsuit -- Market Talk," May 23, 2017, 4:00 PM; *Deutsche Welle,* "US government sues Fiat Chrysler over emissions cheating," May 23, 2017, 1:36 PM; *Agence France Presse*, "US sues Fiat Chrysler over diesel emissions cheating," May 23, 2017, 5:01 PM; *Handelsblatt Global*, "Civil Lawsuit; US Sets Eyes on Fiat Chrysler in Dieselgate Scandal," May 23, 2017; *Bloomberg News,* "Fiat Chrysler Slumps as U.S. Suit Escalates Diesel Troubles," May 23, 2017, 4:53 PM. *See* Supplemental Nye Report Exhibit 15, p. 184.

42. In response, the Company issued a statement in which it said it was "disappointed" by the lawsuit, but would continue to work with the EPA and California Air Resources Board to "clarify issues related to the Company's emissions control technology."[127]

43. Defendants contend that there could not have been price impact from this news because it disclosed no new information that had not been already disclosed in the EPA's NOV on January 12, 2017.[128] On the contrary, the fact that the subject of the EPA Complaint on May 23, 2017 was "consistent with" the subject of the EPA's NOV on January 12, 2017, does not imply that the EPA Complaint conveyed no new information. As described above, the EPA Complaint stated definitively that Fiat Chrysler had used defeat devices, while the January 12, 2017 NOV did not, as Commerzbank observed on January 13, 2017:

> The Environmental Protection Agency (EPA) issued a notice of violation for alleged violations of the Clean Air Act to FCA. At first glance, the announcement sounds very similar to the VW case. As the EPA stated that it issued the violation notice to FCA for installing and failing to disclose software in 104k 3.0L diesel cars (Jeep Grand Cherokee & Ram 1500). However, they did not (yet?) call it a defeat device.[129]

Furthermore, Defendants argument that I "incorrectly testified that the EPA Complaint was the first 'full accusation' that certain FCA vehicles contained 'defeat devices,' whereas the EPA NOV contained no such allegations,"[130] is easily refuted by a plain reading of DOJ's press release on May 23, 2017:

> Following the issuance of the NOV, EPA continued its investigation into the operation of the undisclosed software-based features. Based upon this investigation, the complaint alleges that one or more of these undisclosed software features, alone or in combination with the others, renders inoperative,

[127] *PR Newswire*, "Response: Filing by DOJ-ENRD," May 23, 2017, 1:27 PM. *See* Supplemental Nye Report Exhibit 15, p. 178.

[128] Opposition to Class Certification, p. 20.

[129] Commerzbank, "EPA issues violation notice of Clean Air Act to FCA," January 13, 2017.

[130] Opposition to Class Certification, p. 20, footnote 12.

> bypasses and/or defeats the vehicles' emission control systems, which were installed to make the vehicles comply with Clean Air Act emission standards. **<u>In short, the complaint now alleges that the vehicles contain defeat devices.</u>**[131]

44. Defendants further argue that news of the EPA Complaint had no price impact because investors were concerned about regulatory consequences of noncompliance, which Defendants argue are a separate issue, not to be considered in assessing the price impact of this news:[132]

> Thus, any decline in FCA's stock price on May 23, 2017 was because of investors' concern about the potential regulatory consequences of the EPA Complaint, not any supposed disclosure of new information inconsistent with FCA's prior statements of regulatory compliance.

45. First, the EPA Complaint in itself was a further disclosure that Fiat Chrysler's noncompliance with emissions regulations was more severe than previously revealed (*e.g.*, that the Company had employed defeat devices). Second, the regulatory and legal consequences of noncompliance are an aspect of the risk which Fiat Chrysler's allegedly false and misleading assertions of compliance had concealed, a risk which further materialized on May 23, 2017. Accordingly, the statistically significant Company-specific price decline on May 23, 2017, in response to the EPA Complaint, is strongly demonstrative of price impact.

vii. Other "Corrective Disclosures" That Defendants' Opposition to Class Certification Contends Had No Price Impact

46. Other dates of fraud-related news releases, which Defendants argue did not impact Fiat Chrysler's share price, and which were not examined in the analysis of market efficiency contained in the Supplemental Nye report, include four dates of news classified by Defendants as "safety-related" corrective disclosures: May 18, 2015; July 2, 2015; October 27, 2015; and

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[131] *Dow Jones Institutional News*, "Press Release: United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations," May 23, 2017, 12:48 PM. (Emphasis added.)

[132] Opposition to Class Certification, p. 20.

December 8, 2015.[133] Without conducting any event study or regression analysis of their own, Defendants argue safety-related news on or around these dates had no price impact, because under my regression analysis there was "[n]o statistically significant effect on FCA's stock price" at or above a 95% confidence level on these dates.[134] Defendants make the same argument regarding five dates not examined in my event study that correspond to statistically insignificant Company-specific returns at the 95% confidence level, which Defendants classify as "emissions-related" corrective disclosures: May 19, 2016; September 1, 2016; October 17, 2016; March 31, 2017; and May 17, 2017.[135] As I have discussed above, while statistical significance is a factor for consideration in assessing price impact, it is not the only factor, and the information released on or around the date in question must be analyzed in an event study. This Defendants have failed to do. Importantly, the absence of statistical significance at a prescribed confidence level is not affirmative evidence of the lack of price impact, given that the science of financial economics explicitly allows for efficient security prices to adjust to new information that even minimally affects the "present value of the expected cash flows an investor will receive from owning it."[136] Price impact may exist even for fraudulent public statements or revelations of fraud that do not induce a price reaction large enough to qualify as being statistically significant at the 95% confidence level.[137]

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[133] *See* chart in Opposition to Class Certification, pp. 14–15.

[134] *Id.*

[135] *See* chart in Opposition to Class Certification, pp. 17–18.

[136] Berk, Jonathan and Peter DeMarzo, 2007, *Corporate Finance*, Pearson Education, Inc., 1st Ed., Ch. 9, p. 245.

[137] *See supra* at ¶14.

47. Defendants also note there was news related to Fiat Chrysler's noncompliance with European emissions requirements on the five alleged "emissions-related" corrective disclosures. Counsel for Plaintiffs has advised me that, contrary to Defendants' assertions, the Court has not excluded from consideration of price impact any dates on which news of noncompliance with requirements of non-U.S. laws and regulations reached the market. In any event, as stated above, Defendants' assertions of geographic exclusion appear inconsistent with the Court's discussion of the global nature of Fiat Chrysler's allegedly false and misleading claims of compliance.

VI. Damages Can Be Measured on a Class-Wide Basis and in a Manner Consistent with Lead Plaintiffs' Theory of Liability

48. The analyses set forth in the Supplemental Nye Report establish a foundation for estimating damages on a class-wide basis. Specifically, by controlling for changes in market and industry effects, the event study set forth in the Supplemental Nye Report isolates the price change of the stock due to the release of Fiat-Chrysler-specific information on every day of the Class Period, including the alleged corrective event dates. Thus, as the decline in a security's price in response to corrective disclosures and/or the materialization of a concealed risk reflects the dissipation of price inflation created by earlier misrepresentations and/or omissions, such Company-specific price changes are the natural starting point from which to measure the level of price inflation present during the Class Period.

49. At this early stage of the litigation, I have not conducted an analysis of loss causation or calculated class-wide damages in this matter. Nonetheless, as described in the Supplemental Nye Report, a damages methodology that can be commonly applied to all Class members involves measuring the abnormal returns in response to the alleged corrective disclosures and/or risk materialization events, adjusting for any confounding news, and then applying the constant-dollar method to calculate the amount of inflation in Fiat Chrysler stock throughout the Class

Period.[138] "Once the daily levels of price inflation have been calculated throughout the Class Period, a Class member's actual trading activity in the security can be used to mechanically calculate damages on an individual basis."[139] This is precisely the same damages methodology that I put forth at the class certification phase in *Waggoner* v. *Barclays PLC*, and which was endorsed by the Second Circuit.[140]

50. In this case, Plaintiffs' allegations are that: (i) Defendants' false statements and omissions artificially inflated Fiat Chrysler's stock price throughout the Class Period by falsely maintaining the impression that the Company was "substantially in compliance with vehicle safety and emissions regulations";[141] and (ii) this inflation was removed from the stock price following the corrective events on July 27, 2015; October 28, 2015; May 23, 2016; January 12, 2017; February 6 and 7, 2017; and May 23, 2017.[142] Furthermore, it is my understanding that while the alleged fraud may have manifest itself in different ways (*i.e.*, via concealed violations of global vehicle safety and emissions regulations), Plaintiffs allege one course of misconduct by Defendants that was initiated at the outset of the Class Period, which if disclosed earlier would have caused similar stock price declines as those observed on the alleged corrective event dates. Thus, given Plaintiff's single price maintenance theory, it is clear that "this is a case in which the Plaintiffs' 'proposed measure for damages is ... directly linked with their underlying theory of classwide

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[138] Supplemental Nye Report, ¶74, citing *In re Pfizer, Inc. Sec. Litig.*, Case No. 14-2853-cv (2d Cir. Apr. 12, 2016), pp. 16, 17.

[139] Supplemental Nye Report, ¶75.

[140] *Waggoner* v. *Barclays PLC*, 875 F.3d 79, 105 (2d Cir. 2017).

[141] Fourth Amended Complaint, ¶4, 499.

[142] Fourth Amended Complaint, ¶¶323–326 (for July 27, 2015); ¶¶335–338 (for October 28, 2015); ¶¶356, 357 (for May 23, 2016); ¶¶364–366 (for January 12, 2017); ¶¶369–371 (for February 6 and 7, 2017); and ¶¶374–376 (for May 23, 2017).

liability ... and is therefore in accord with the Supreme Court's ... decision in *Comcast.*' *U.S. Foodservice*, 729 F.3d at 123 n.8."[143]

51. With respect to "when and how any alleged inflation 'would have entered the stock,'"[144] Plaintiffs allege numerous misrepresentations throughout the Class Period that falsely maintained the impression that the Company was "substantially in compliance with vehicle safety and emissions regulations," as well as at least six corrective events that revealed the falsity of the alleged misrepresentations.[145] Furthermore, as described above, on October 10, 2014, just prior to the start of the Class Period, Fiat Chrysler assured the market that it was "substantially in compliance with the relevant global regulatory requirements affecting our facilities and products," and that "[w]e constantly monitor such requirements and adjust our operations to remain in compliance."[146] Thus, notwithstanding the fact that I am unaware of any requirement, at the class certification stage, that Plaintiffs must specific exactly when price inflation entered the stock, the record suggests that, consistent with Plaintiffs' theory of liability, Fiat Chrysler's stock price was inflated on the first day of the Class Period, October 13, 2014, which was the first day of public trading following the merger between Fiat SpA and Chrysler Group LLC.

52. Defendants fail to provide any evidence contradicting my opinion that "out-of-pocket" damages in this matter can be calculated formulaically on a class-wide basis, using a method that is common to the class and consistent with Lead Plaintiffs' theory of liability. Rather, Dr. Gompers criticizes that Lead Plaintiffs must establish:

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[143] *Waggoner* v. *Barclays PLC*, 875 F.3d 79, 106 (2d Cir. 2017).

[144] Opposition to Class Certification, p. 13.

[145] Fourth Amended Complaint, ¶¶249–376.

[146] Fiat Chrysler, SEC Form F-1, filed October 10, 2014, p. 157.

i. "a proper economic but-for world,"[147] in which the causal connection between Defendants' alleged misrepresentations and Plaintiffs' economic losses varies over time to comport with Dr. Gompers' speculations of "what Fiat Chrysler should have disclosed and when it should have disclosed it,"[148] as well as conditions that **may have** existed during the Class Period;[149, 150] and

ii. the precise mechanisms by which any confounding information can be identified and disaggregated,[151] in order to "accurately calculate[] the amount by which Fiat Chrysler's stock was inflated on any given day."[152]

53. However, Dr. Gompers fails to mention that the development of a "proper economic but-for world," from which "an economist can estimate the impact that [the but-for disclosures] would have had on the stock price to determine the so-called but-for price—that is, the stock's value if the market had knowledge of the allegedly concealed facts,"[153] necessarily requires an assessment of "loss causation—a causal connection between the defendants' alleged misrepresentations and the plaintiffs' economic losses,"[154] which I understand is not required at

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[147] Gompers Report, ¶46.

[148] Gompers Report, ¶54.

[149] *See, e.g.*, Gompers Report, ¶56 ("…it is **likely** that a but-for world would include numerous but-for disclosures made at different times—including times after the beginning of the Class Period—each **potentially** having a separate impact on the but-for stock price."); Gompers Report, ¶64 ("it is **unlikely** that the but-for disclosures and the alleged corrective disclosures would have been similar."); and Gompers Report, ¶88 ("…the difference between the actual stock price returns and the expected stock price returns (or the residual returns) on October 28, 2015 and February 7, 2017 **may reflect** the impact on the stock price of all the pieces of information released on these days, including the confounding information. Therefore, this difference **may not** measure the economic loss (or damages) associated exclusively with the alleged corrective disclosure.") (Emphasis added.)

[150] Gompers Report, §V.C.1 and §V.C.2.

[151] Gompers Report, §V.C.3.

[152] Gompers Report, ¶53.

[153] Gompers Report, ¶46.

[154] *Halliburton II*, 134 S. Ct. at 2406. (Internal quotations omitted.)

this stage of the litigation.[155, 156] The same is true for Dr. Gompers' requirement that Plaintiffs must submit proof analyzing stock price movements "to isolate losses that are associated with the correction of only the specific alleged misstatements and omissions."[157] Defendants are wrong to assert that the general economic framework for quantifying per-share damages on a Class-wide basis described in the Supplemental Nye Report[158] "fails to satisfy *Comcast* and therefore cannot support class certification here."[159] It is my understanding that "*Comcast* does not suggest that damage calculations must be so precise at this juncture. To the contrary, *Comcast* explicitly states that '[c]alculations need not be exact.' 569 U.S. at 35."[160]

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[155] *Erica P. John Fund, Inc. v. Halliburton Co.*, 563 U.S. 804 (2011).

[156] *See also, e.g.*, the following two cases in which Dr. Gompers served as economic expert for Defendants regarding issues pertinent to class certification: *Hatamian v. Advanced Micro Devices, Inc*., 2016 U.S. Dist. LEXIS 34150; Fed. Sec. L. Rep. (CCH) P99, 040; 2016 WL 1042502, at *28 (N.D. Cal. Mar. 16, 2016):

> *See, e.g. In re SLM Corp. Sec. Litig.* 2012 U.S. Dist. LEXIS 8158, 2012 WL 209095, at *5 (S.D.N.Y. Jan. 24, 2012) ('evaluating potentially confounding information on the disclosure dates, and determining whether it was material, is tantamount to a loss causation analysis'). These sorts of inquiries into loss causation are properly addressed by a fact-finder on the merits; Plaintiffs need not show loss causation as a condition of class certification. *See Halliburton I*, 131 S. Ct. at 2186;

and *Carpenters Pension Trust Fund of St. Louis v. Barclays PLC*, 310 F.R.D. 69; 2015 U.S. Dist. LEXIS 110382; Fed. Sec. L. Rep. (CCH) P98, 605, at *86 (S.D.N.Y. 2015):

> Likewise, the net result of *Halliburton I* and *Halliburton II* is that at class certification, a plaintiff is not required to prove either price impact – stock price movement based on the fraud – or loss causation – that the misrepresentation caused a subsequent economic loss. Thus, it would be inconsistent with this precedent to require a plaintiff to submit proof analyzing stock price movement on days in which the alleged misrepresentations or corrective disclosure are made.

[157] Gompers Report, ¶83.

[158] Supplemental Nye Report, §VII.

[159] Opposition to Class Certification, p. 22.

[160] *Waggoner* v. *Barclays PLC*, 875 F.3d 79, 106 (2d Cir. 2017).

54. Nonetheless, all of Dr. Gompers' criticisms involve loss causation and damages issues that are necessarily common among all Class members. As stated in the Supplemental Nye Report:

> Th[e] event study analysis applies to all Class members, regardless of the extent to which the price movement is due to corrective disclosures and/or the materialization of a concealed risk. After isolating the price impact of the alleged misstatements and omissions, one can estimate the price inflation due to the alleged fraud for each day during the Class Period, and on a Class-wide basis for each member of the Class. Once the daily levels of price inflation have been calculated throughout the Class Period, a Class member's actual trading activity in the security can be used to mechanically calculate damages on an individual basis.[161]

55. My work in this matter is ongoing. My opinions in this report are subject to refinement or revision based on analysis of new information which may be provided to me, including the opinions of other experts and receipt of additional documents and data, and based on further analysis of the data and materials described herein. Should additional relevant information be provided to me, my opinions may be supplemented at a later date.

Executed on March 13, 2018, at Redwood City, California.

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Zachary Nye, Ph.D.

[161] Supplemental Nye Report, ¶¶74, 75. (Internal citations omitted.)